THE SIGNIFICANCE OF PHRICTOPATHIC SENSATION

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During the process of recovery from a hysterical anesthesia a great variety of abnormal sensations may be experienced by the patient when the part in question is stimulated. Certain features characteristic of these sensations occur in such constant association that it seems justifiable to include them in a single group, which I have proposed to designate by the term phrictopathic (14). So far as I am aware the unity of the group has not previously been recognized, though, as will presently be shown, indications of several of the individual features are to be found in the literature. A description will first be given of the six features characteristic of the symptom and then a discussion of its pathological significance. The symptom may be met with in all degrees of intensity, and naturally its characters are most easily to be studied in cases in which it is most marked. As the most marked instance of it I have observed was in a patient in the achiric stage of dyschiria, a syndrome I have elsewhere described (15), I shall refer particularly to this case at first and point out later the milder forms in which the symptom presents itself. The individual features of the sensation may now be considered in detail.

1. *Abnormal Persistence.*—Instead of the sensation ceasing to be experienced immediately the cutaneous stimulus is withdrawn, as it does in the normal, it here persists in unabated intensity for a variable time. In the case referred to above the sensation persisted for 50–60 seconds; the shortest period I have known it to persist has been—in other cases—six or eight seconds, and between these two extremes all gradations may be observed. The dying away of the sensation is a rapid process

occupying usually only a second or two. Many of the after-sensations which are well known sometimes to follow cutaneous stimulation in hysterical anesthesia are probably of this nature. Binswanger (4) has described these "pathologischen Nachempfindungen" as "brennende, ätzende, kriebelnde Schmerzen," which might well pass as a description of the milder forms of phrictopathic sensation.

2. *Delayed Reaction Time.*—Any reaction time involving a conscious process is unduly delayed. An interval of between two and six seconds elapses before the stimulus is consciously appreciated. This fact has been noted in cases of allochiria by Bosc (6), Janet (10), and others. It will be remembered that, as was first demonstrated by Onanoff (20), reaction times in cases of hysteric hypoesthesia are shorter than normal, provided the mental process is subconscious, as in a simple motor response.

3. *Non-perception When a More Normal Sensation is Present.*—I have not met with any previous account of this observation which I believe to be of importance in connection with the theory of the symptom. Two sets of facts have to be distinguished according as the normal sensation is evoked simultaneously with or subsequently to the application of the stimulus evoking the abnormal sensation; this may be illustrated by taking the case of the above patient who had achiria of the right limbs. (*a*) If stimuli were applied simultaneously to the right and left arms, only that applied to the latter was appreciated. (*b*) If the abnormal and long-lasting sensation was first evoked by stimulation of the right arm, and then, while he was still feeling this, a stimulus was applied to the left arm the abnormal sensation on the right side was instantly abolished.

Two further observations are necessary to complete the description of this point. In the first place sensibility in this patient's right arm was absolutely intact even to the most rigorous of the usual tests, so that although he could appreciate the lightest Von Frey hair when this was applied alone he felt nothing at all in the right arm, however strong the stimulation, provided the left arm was simultaneously touched. In the second place the observations were perfectly constant, and in some thousands of tests I have never seen any exception to the above rule.

In a case of bilateral allochiria in which the defect in autosomatognostic feeling (see below) was more marked on one side, a stimulus applied to the more normal side acted precisely in the same way as a stimulus applied to the quite normal left side in the unilateral case; that is to say, it prevented sensation being evoked by a stimulus applied to the less normal side if applied simultaneously, and abolished it if applied subsequently.

4. *Tendency to Immediate Motor Response.*—The stimulus is followed by an instantaneous start which the patient is quite unable to prevent; this sudden jerk is so fatal and irresistible as to give the appearance of a direct reflex. This has also been noticed by Pitres in connection with a symptom called by him haphalgesia, which we shall presently have to discuss. He states (21) that immediately on experiencing the sensation in question the patient " se recule vivement." It is also met with in connection with what Head (9) has termed protopathic sensation. Like the latter, phrictopathic sensation is also very disagreeable, but there is no further resemblance between the two either in their other attributes or in their origin.

5. *Disagreeable Quality.*—This is the most striking feature of the group. The sensation is never one of pure pain. When only slight it is mainly one of " queerness," " unnaturalness," " strange disagreeableness "; when more pronounced it is one of unpleasant tingling or shuddering; when very marked this shuddering has an intense quality that can be described only as horrible. In other words, this peculiar quality of the sensation is always unpleasant, is often very disagreeable and sometimes constitutes a horrible shudder, on account of which feature I have described it as phrictopathic. The sensation is essentially diffuse and may radiate not only widely over the limb stimulated, but even over the whole length of the body. In the achiric case referred to above it was most striking to witness the way in which the patient, sweating with horror, was relieved from his misery by the lightest touch applied to any part of the left side of his body.

Indications of this feature, though in a much less marked degree, are given in many cases described in the literature. Thus Janet, in a case of bilateral achiria, states (11) that cutaneous stimulation " provoque seulement une sensation vague de quelque chose de gênant, sans que le sujet sache ce que c'est. Ce n'est pas une douleur proprement dite, c'est surtout une sensation indistincte." Pitres (21) describes the sensation in haphalgesia as "une sensation indéfinissable de vibration chaude, plus désagréable assurément que celle que provoque du côté opposé le passage d'un fort courant faradique." Elsewhere (22) he describes it as "une sensation très vive de brûlure." Gilles de la Tourette (32) also described haphalgesia in one of his cases as "une sensation douloureuse qui ressemblait à une brûlure." Sollier has given a more detailed description of the quality in several of his cases. Thus in Observation V (25) he describes the return of sensibility in a previously anesthetic limb as being accompanied by "des sensations de fourmillements, de crampes, de tiraillements, de brûlure, etc." Under like circumstances in Observation VI (26) the patient says "qu'elle a des fourmillements, et des élancements, des crampes, que ça tire," and (27) that "Cela me picote, me brûle comme si on m'avait frottée avec des orties"; on another occasion (28) she describes the sensation thus, "Ça tire; ça picote; j'ai des crampes et des brûlures en même temps; c'est comme des caoutchoucs; il y a quelque chose qui coule dans mes jambes; ça fourmille," etc. In connection with this case and also with that of Observation XVII (29) the tendency to immediate motor response is also fully described.

An observation I have frequently made is that the patient "tries to rub the touch off"; this no doubt is due partly to the tendency to motor response, but mainly to the disagreeable irritating nature of the sensation. Sollier (27) remarked the same fact in one of his cases.

6. *Impairment of the Sense of Personal Ownership.*—The sensation gives to a patient a curious feeling that he usually describes as "being touched on some part that doesn't belong to me." Like the other attributes mentioned above this varies greatly in degree. When slight it feels as though the part touched is "strange"; "funny," "hardly belonging to me"; when it is more pronounced the part touched feels decidedly foreign, and when very marked the part touched is definitely repudiated by the patient as in any way belonging to him; it is then as though the information about the stimulus, which may be perfectly correct as regards its nature, position, etc., comes to him from nowhere. To give an instance of this, one of my patients

touched on the forefinger would say "You are touching the back of some forefinger with a blunt pin; it isn't my finger and I have no idea where it is, but it causes an intensely disagreeable shudder to run all up one side of me."

We thus see that there are plentiful indications in the literature of similar attributes to those grouped here under the term phrictopathic. I have little doubt but that the symptom described by Pitres (23) under the name of haphalgesia is identical with phrictopathic sensation. Pitres, who at that time was unfortunately under the influence of Charcot's erroneous teaching on the subject of metallotherapy, wished to indicate by this expression a disagreeable sensation that a patient experienced in an otherwise anesthetic part when it was "stimulated" by contact with various precious metals. He described the symptom in several cases (24), certain metals being considered to be efficacious in some cases and other metals in others. The only references that I have found to the phenomenon besides those of de la Tourette just mentioned are in the writings of Janet (13), Loewenfeld (19), Bardonnet (2), Binswanger (5), Decoux (7), and Lannois (18). The latter describes the case of a female tabetic with extensive anesthesia of the left arm in which the symptom was produced by contact with copper only. All these authors seem to accept Pitres' description and explanation, though Janet would restrict it to only certain cases. It need hardly be said, however, that this supposed dependence of the symptom on contact with metals was due to the fact that at that time metals were thought to be powerful esthesiogenic agents, the importance of suggestion in this connection not being recognized. As Dr. Jung once drily remarked, it is not only hysterics whose hands are excited by contact with precious metals.

We come now to the pathogenesis of phrictopathic sensation, but before we discuss this a few remarks are necessary concerning the two fundamentally different types of hysterical anesthesia. These are best understood by considering for a moment the different sets of mental processes that have to do with a given part of the body in the normal. These are sharply divisible into two main groups. *First* there are the mental processes that depend on the incoming excitations flowing in from the bodily member at a given moment and which may be called the esthesic[1] sensibilities. This group is composed of two subgroups, first the sets of common sensibilities (touch, pain, etc.) that have to do with the immediate relation of the member with the external world, and secondly the sensations, largely subconscious, which have their origin in the functioning of our internal organs; a good description of the latter subgroup, which is called cenesthesia, is given by Sollier (30). *Secondly* there is a group of mental processes that are essentially of the nature of memory feelings. All the mental processes of diverse origin that in the past have had to do with the member in question go to form this group. To enumerate only a few of these, there are the memories relating to its functions, both motor and sensory, memories relating to its appearance, " sidedness," position, and all that the member stands for to the individual; in short, all the complex of memory feelings that may normally be aroused by the mention, touch, sight, or thought of the member in question. This second group might be thus described by the name autosomatognostic; in the past it has often been confused with the totally different group of cenesthesic sensibilities.

From the standpoint of pathology perhaps the most important difference between the esthesic and autosomatognostic groups is the outstanding fact that whereas only the former can be affected by organic disease, either or both may be affected by functional disease. Affection of the second group is a form of amnesia, of either a retrograde or antero-retrograde type, and localized amnesia bearing on one set of memory processes is a form of psychical disaggregation highly characteristic of hysteria. On the other hand it is most striking that complete abrogation of all esthetic sensibilities has no appreciable effect on the autosomatognostic group. Every nerve in the limb may be severed, the limb may even be amputated, and the patient still has the liveliest memory of what it feels like to have such a limb and enjoy its functions and has a normal knowledge of all that such a limb means to the individual; in the case of amputation in infancy such memories never form, but that is of course a different matter.

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[1] We seem compelled to employ this etymologically indefensible term, for the regular derivative formed from the Greek genitive has become so infused with meaning foreign to the sense here intended that its use here would tend to lead to confusion; to speak of "esthetic sensibility" in the present connection might be ambiguous. We have the precedent of "cenesthesic" to support the use of the term "esthesic."

We thus see that in hysteria two entirely different forms of anesthesia occur, according to whether only the sensibilities of the part or the sensibilities plus the memories of the part are dissociated. One important difference between these two anesthesias concerns the amount of distress caused to the patient. With the ordinary hysteric anesthesia in which only the first group is affected the direct result so far as the patient's well-being is concerned is almost negligible, and in fact is considerably less than the result of an anesthesia of organic origin. This is strikingly illustrated in Janet's well-known case (12) of a girl who came to the Pitié hospital complaining of the inconvenience she suffered from a patch of anesthesia which was due to an injury of the median nerve. In the course of examination it was demonstrated, to the patient's surprise, that she was completely anesthetic on the whole of the opposite half of the body. In fact the patients' ignorance of their anesthetic stigmata was, as De Lancre mentioned three hundred years ago (17), widely known at a time when these were regarded as marks of the devil's claw, and the notorious frequency with which they are overlooked by the patient has led to the erroneous inference, by Babinski (1), Bernheim (3) and others, that they are usually artificially created by the observer.

In sharp contrast to the patients' ignorance of this form of anesthesia is the great distress and misery suffered by patients who have in addition the rarer autosomatognostic defect. Autosomatognostic memories seem to be intimately connected with our feelings of capacity, adequacy and well-being, but above all with our sense of personality. In fact the condition in question is usually described by authors under the name of "partial depersonalisation" and the importance of it to the feeling of personality and well-being has frequently been noted. When it is very pronounced the loss of the sense of personal ownership of the part concerned is very striking. The patient may have so thoroughly forgotten what it feels like to have a given member that he becomes totally incapable of imagining the normal feeling in this respect or even of in any way understanding what is meant when it is referred to. Thus the patient of mine referred to above had so completely forgotten what it felt like to have a right arm that he did not understand one when one used the expression "right arm." He could as readily have imagined the feeling of a wing growing from his right shoulder as that of an arm and would have felt as competent to use the one as the other; the amnesia for all that a right arm stood for was complete.

When now in this graver type of anesthesia recovery comes about it often does so only gradually. In the majority of cases both groups of mental processes, *i. e.*, sensibility and autosomatognostic feeling are recovered synchronously. If however sensibility begins to return first then the dawn of sensation is a vague impression that something is being felt, but where, what, or how is to the patient a mystery. He has forgotten what such sensations mean and only slowly recovers the memories they normally evoke. He not only feels a touch on a part that is not accustomed to feel touches, but he knows nothing of this part even, as is shown by the sense of foreignness it conveys. It is thus like feeling a touch with a part that has no previous mental history, a feeling that a normal individual can try to appreciate only by imagining that he were to experience a touch with some newly added part of a body, the nature, functions, shape and position of which were entirely unknown. The whole process is to the patient such a novel, strange and uncanny process as amply to account for the bizarre and disagreeable feeling experienced. An excellent descriptive account of these various feelings experienced on the "réveil de sensibilité" is given by Sollier (31).

This consideration seems to me to be of fundamental importance in relation to the problem of phrictopathic sensation. In the study of any case showing this symptom one of the most striking facts observable is the close correlation between the intensity of the abnormal attributes above described and the depersonalization or loss of the sense of personal ownership of the part concerned. If the patient above referred to came one day and told me that his right arm felt "funny," "strange" or "sleepy," I could be quite certain that the sensation elicited by a touch on the arm would persist for from eight to twelve seconds, that the delay in the reaction time would be two seconds and that the disagreeable quality would be of only a moderate degree. If on the other hand it was found that such a sensation persisted for sixty seconds, I could predict that the patient would not describe his right arm as " sleepy " or even as " dead," but that he would declare that he " hadn't a right arm " and that he could feel nothing whatever beyond the shoulder joint. The phrictopathic symptom is therefore intimately correlated with and probably dependent on what I have termed the autosomatognostic defect.

The essential point in the pathogenesis of phrictopathic sensation seems to me to be the occurring of a cleavage between the esthesic sensibilities and the autosomatognostic memory feelings, and the intensity of the characteristic attributes to be a measure of the extent of this cleavage. This explains why in most cases of the severe type of anesthesia, where the recovery of sensibility is only a little, if at all, in advance of the recovery of autosomatognostic feeling, the attributes are so elusive and faintly marked as almost to escape the observer's attention. In order that the cleavage should be pronounced it is necessary that the loss of autosomatognostic feeling should be profound, or, put in more modern language, it is necessary that the inhibiting or suppressing force of the underlying painful feeling-complex, which Freud (8) demonstrated thirteen years ago to be the cause of the resistance to becoming conscious that characterizes disaggregated mental processes in hysteria, should be unusually great; this is so when the autosomatognostic feeling bears a peculiarly intimate association to the central complex, as I have been able to show by the psycho-analysis of my cases. A further point worthy of remark is that the cleavage in question is usually, and perhaps always, accompanied by the presence of one or other of the dyschiric manifestations, which I have described in detail elsewhere (15).

Let us now briefly review the individual features of the symptom in the light of this hypothesis, keeping well in mind the difficulty with which the sensation has to contend before reaching consciousness, this being due to the resistance caused by the suppressed complex with which it is associated. The delayed reaction time is a direct consequence of this difficulty, and has been amply demonstrated by Jung (16), in association experiments, to be characteristic of the stimulation of a submerged painful complex. The abnormal persistence of the sensation and the irresistible tendency to an immediate motor response are attributable to the uncontrollable, impulsive and automatic activity of a mental process associated with a complex that is unassimilable in consciousness, a well-known psychical phenomenon. The obviously defensive nature of the motor response is a typical instance of the resentment elicited by irritation of a painful feeling-complex, and is a measure of the resistance to the assimilation of this. The non-perception of the sensation in the presence of a rival normal sensation is similarly attributable to the difficulty with which the mental process contends in reaching consciousness; the resistance can be overcome only when no competing mental processes are present. The mental state of hystericals used to be described some years ago in terms of diminished power of attention; stated in this language we may say that the least opportunity to attend to some other normally experienced sensation is automatically seized upon and the painfully associated one is once more suppressed. The disagreeable quality of the sensation I would attribute directly to the amazingly strange and bizarre nature of the mental process, which is so indescribably foreign from any previously experienced by the patient. The impairment of the sense of personal ownership of the part stimulated is of course easily explicable by the defect in autosomatognostic feeling that is at the base of the whole phenomenon.

Conclusion.—Sensations showing the six features here grouped together under the designation phrictopathic are due to a cleavage between the esthesic sensibilities and the autosomatognostic memory-feelings of a part of the body, which results from hysterical disaggregation implicating the latter group of mental processes; the degree to which the features are marked is an accurate measure of the extent of this cleavage.

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